



technicalTM

Supporting Enterprise Networks and Operating Environments

SUPPORT

SEPTEMBER 1997

VOLUME 5, NUMBER 9

SECURITY

Security Systems to Include Remote Locations

The 10 Golden Rules of Network Security

Synchronizing Security Information
Across Mixed MVS/VM Systems

NetWare Auditing

<http://www.naspa.net>

16 Extending Existing Security Systems to Include Remote Locations

By Gordon Bennett



This article examines what features to look for when evaluating security software to extend the capabilities of RACF, CA-ACF2, and CA-Top Secret to include remote users, teleworkers, consumers, and business partners.

32 Synchronizing Security Information Across MVS/VM Systems

By Ed Blunt

This article examines the security challenges facing sites with mixed MVS/VM systems and different security packages, and presents solutions to their password synchronization problems.



36 The 10 Golden Rules of Network Security

By Chip Mesec

With unauthorized use of computer systems increasing, the most effective way to secure an IS organization is to become better educated and make security part of your day-to-day job.



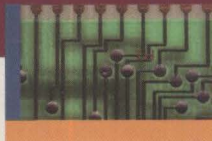
46 Using NetWare 4 Auditing

By John E. Johnston

NetWare 4 provides an auditing facility that allows network administrators to monitor changes to the file system and the NDS structure, as well as verify system security, troubleshoot applications, and monitor access to highly sensitive data.



SYSTEMS



8 Testing, Testing, 1-2-3: The Critical Step in Year 2000 Projects — Part II

By James S. Huggins and C.E. Scott

In theory, software testing may be simplistic, but when applied to the Year 2000, it becomes enormously difficult. This article examines several problems that may be encountered in the testing cycle of the Y2K conversion and offers some suggestions to solve these problems.

20 OpenEdition MVS and the Bourne Shell: A User Experience — Part III

Troubleshooting OpenEdition MVS Shell Problems

By Evan Galen

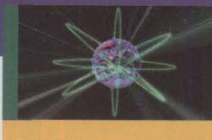
This concluding article presents tools for gathering information on the failure situations which arose from the functional comparisons of OpenEdition MVS and the SunOS Bourne shell, and presents some general conclusions on OpenEdition MVS.

24 Year 2000 Solutions for Recovering Lost Source Code

By Leland G. Freeman

Recovery of source code can be performed faster and more cost-effectively without the need for COBOL programmers to replace the missing source.

NETWORKING



51 UNIX, Windows NT, and NetWare — A Comparative Analysis: Part I

By Guy C. Yost

Although the ideal platform would measure favorably as both a Network Operating System and an Application Server in an enterprise environment, UNIX, NetWare, and Windows NT all have their strengths and weaknesses that amount to each product being best suited for one purpose or another.

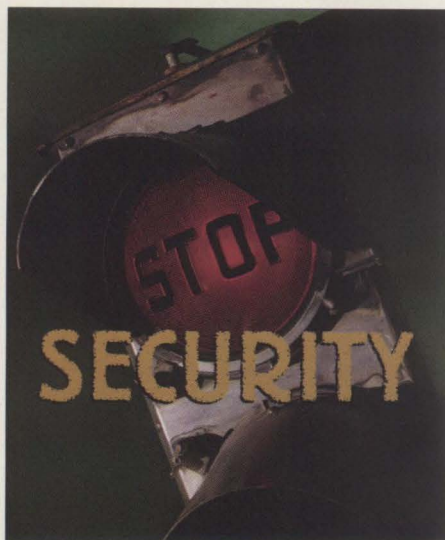


image copyright © 1995 PhotoDisc, Inc.

NaSPA Mission Statement:

The mission of NaSPA, Inc., a not-for-profit organization, shall be to serve as the means to enhance the status and promote the advancement of all network and systems professionals; nurture member's technical and managerial knowledge and skills; improve member's professional careers through the sharing and dispersing of technical information; promote the profession as a whole; further the understanding of the profession and foster understanding and respect for individuals within it; develop and improve educational standards; and assist in the continuing development of ethical standards for practitioners in the industry.

The information and articles in this magazine have not been subjected to any formal testing by NaSPA, Inc. or Technical Enterprises, Inc. The implementation, use and/or selection of software, hardware, or procedures presented within this publication and the results obtained from such selection or implementation, is the responsibility of the reader.

Articles and information will be presented as technically correct as possible, to the best knowledge of the author and editors. If the reader intends to make use of any of the information presented in this publication, please verify and test any and all procedures selected. Technical inaccuracies may arise from printing errors, new developments in the industry and/or changes or enhancements to components, either hardware or software.

The opinions expressed by the authors who contribute to *NaSPA Technical Support* are their own and do not necessarily reflect the official policy of NaSPA, Inc. Articles may be submitted by members of NaSPA, Inc. The articles should be within the scope of host-based, distributed platforms, network communications and data base, and should be a subject of interest to the members and based on the author's experience. Please call or write for more information. Upon publication, all letters, stories and articles become the property of NaSPA, Inc. and may be distributed to, and used by, all of its members.

NaSPA, Inc. is a not-for-profit, independent corporation and is not owned in whole or in part by any manufacturer of software or hardware. All corporate computing professionals are welcome to join NaSPA, Inc. For information on joining NaSPA and for membership rates, see page 73.

NaSPA Technical Support (ISSN 1079-3135) (IPM Agreement Number 0806773) is published monthly by Technical Enterprises Inc., 7044 S. 13th Street, Oak Creek, WI 53154-1429. Periodicals postage paid at Oak Creek, WI and additional mailing office. **POSTMASTER:** Send address changes to *NaSPA Technical Support*, 7044 S. 13th Street, Oak Creek, WI 53154-1429.

All product names mentioned in this publication are the trademarks/registered trademarks of their respective manufacturers.

- | | |
|---|---|
| <p>54 MVS Tools & Tricks
Systems Programmer Creativity
<i>By Sam Golob</i></p> <p>57 Working Smarter
ISPF V4: Rolling With the Changes
<i>By Jim Moore</i></p> <p>59 VM Toolbox
The 1997 VM Workshop
Tools Tape
<i>By John D. Kinne</i></p> <p>60 VSE Tools & Techniques
Using \$JOBACCT
for Unit Record Cleanup
<i>By Leo J. Langevin</i></p> <p>62 Storage Strategies
Choosing Your Targets:
Recall Volume Selection
<i>By Steve Pryor</i></p> <p>65 Enterprise Networking
Pretty Good Privacy (PGP) 5.0
<i>By John E. Johnston</i></p> | <p>67 NT Insights
Installation Issues and
Configuration Concerns
<i>By Guy C. Yost</i></p> <p>69 On a Personal Note
Foot in Mouth...
and Other Extremities
<i>By Mike Sutton</i></p> <p>72 OS/2 Insights
Building the Perfect Beast:
Part III — Customization
<i>By Michael Norton</i></p> <p>75 Opening Windows
Starting Clean With
a New Windows Machine
<i>By Al Shing</i></p> |
|---|---|

DEPARTMENTS

- | | |
|--|--|
| <p>6 From the President</p> <p>26 NaSPA CD-ROMs</p> <p>42 DEMOS on DEMAND
and HOTLINKS</p> <p>44 NaSPA News
NaSCOM Update
<i>By Scott Sherer</i></p> <p>45 Letters to the Editor</p> | <p>64 NaSPA Insurance Programs</p> <p>64 NaSPA Services Directory</p> <p>70 Education Vendors</p> <p>73 Reader Services</p> <p>74 NaSPA Insurance Programs</p> <p>76 Recent Releases</p> |
|--|--|

Building the Perfect Beast: Part III — Customization

BY MIKE NORTON

One thing I will admit that Windows 95 does better than OS/2 is cater to user psychology. For instance, I've always admired the "Starting Windows 95 for the very first time" screen, which appears when booting Windows 95 after installation. There's something singularly special about booting to a new operating system — an operating system without the burdens of past sins, free from the consequences of the abuse I tend to heap upon an operating system. The effect is so pleasant, I've often wondered why many of the poor souls I've spoken with were willing to spend days tracking down and correcting some glitch that a few hours reinstalling would resolve.

RESOLVING OPERATIONAL GLITCHES BEFORE CUSTOMIZATION

The answer, of course, lies in customization, particularly of the OS/2 Desktop. Indeed, it is almost unbearably tempting after a new installation to start organizing icons, change backgrounds, and set folder behavior. Don't. Make sure your system is fully functional and resolve any operational glitches before investing in customization. I've been burned more than once installing applications and customizing a system only to find out something didn't go quite as I intended during installation, leading to being impaled on the horns of the dilemma: to reinstall and lose my customization or hack it out and start out life with a compromised install. Try it before you buy it. Ensure that the network is working properly, devices are functioning correctly, and WINOS2 is accessible before moving a single icon or installing any application. If possible, I try to let a system "cure" for a couple of days, using only the applications provided with the operating system

Configuring and fine-tuning the OS/2 command environment may not be as appealing as an exquisitely customized desktop, but ultimately the underlying batch environment is the heart of the perfect beast.

before any customization or installation of application software.

AN EXCEPTION TO THE RULE: 4OS2

There is one application for which I make an exception: 4OS2 gets installed as soon as I get rebooted. Indeed, whether I'm using DOS, Windows NT, or OS/2, the popular line of products from JP Software, Inc., always goes first on my system. For those of you who are not familiar with 4DOS and its offspring for OS/2 and NT, 4OS2 provides a replacement command processor with enhanced functionality. The LIST command alone is worth picking up a copy of 4OS2: It allows you to browse a file in the command session — meaning it is lightening fast. 4OS2 also allows you to assign file descriptions up to 511 characters to files, storing the filename and description in a text file in the directory (I rename the default description file to 00index.txt, since the format is the same as the familiar UNIX convention). 4OS2 Aliases allow you to create in-memory batch files to quickly execute frequently used commands and procedures. For more information on 4OS2, visit JP Software, Inc.'s website at <http://www.jpsoft.com>.

Once I've installed 4OS2, I then use a REXX command file to assign a generic file description ("OS/2 installation") to every file on the operating system partition. This allows me to keep track of files added to my system after installation — 4OS2 provides a facility for searching by description, which, in turn, allows me to avoid a mile-long LIBPATH statement: I simply dump DLLs from applications into the OS2\APPS\DLL directory, which is already included in the LIBPATH. I'm increasingly doing the same thing with executables. The advantage, of course, is that it takes less time to read one directory in the PATH or LIBPATH statement than it does to read multiple directories.

For similar reasons, I reorganize my LIBPATH and PATH statements to my own personal pecking order. Not only does this improve speed, it allows me to dictate the order in which files are found. By placing the directory that contains command files at the beginning of the PATH statement, I can provide my own defaults and switches for external commands such as CHKDSK, or any program for that matter. Many of you may already be familiar with this technique from using .BAT files to set up the environment and launch .EXE files bearing the same name under DOS. However, it is my observation that overall the majority of users overlook the rich batch environment which OS/2 provides and ignore the fact that the same fundamental principles and techniques of the DOS environment apply to OS/2.

While I'm altering my CONFIG.SYS, I spend a few moments organizing and sorting this most important of files (after prudently backing it up, of course). Although there are a number of utilities available for the task (and some of them are

quite good), I prefer to manually perform this chore. The educational value alone is worth the time and effort: I would highly recommend any new user open up the OS/2 command reference and other related publications and learn the function of each of the statements in the CONFIG.SYS. Be careful, though: In some cases, certain statements must appear in a particular order. I've never run into this problem organizing my CONFIG.SYS, but I have encountered this when installing certain options, most notably PCMCIA support. Just be sure you keep handy a copy of the CONFIG.SYS file that you know works.

ENVIRONMENTAL VARIABLES

One of my areas of organization in the CONFIG.SYS includes environmental variables which are, of course, eternally intertwined with my arsenal of batch command files. Those of you from PC or UNIX shops are almost certainly familiar with environmental variables, but those of you migrating from mainframe shops may not be at all familiar with them. The most common use of environmental variables is to maintain path information independent of the actual physical path, much like dataset names. Thus, if I have included a SET MYPATH=C:\FOO in my CONFIG.SYS, my command files can reference %MYPATH\FILENAME.EXT (the percent sign identifying MYPATH as an environmental variable), which is translated into C:\FOO\FILENAME.EXT on execution. This means that I can subsequently move

**Part of building the perfect beast,
so to speak, is recognizing
the nature of the beast,
and I am of the opinion
that many users have come
to confuse the PM/WPS GUI
front-end to OS/2 with OS/2 itself.**

the FOO directory to another drive or directory and simply modify the SET statement in the CONFIG.SYS to update all references. Environmental variables are also useful at the command line, especially when a pathname becomes unwieldy. Setting an environmental variable PROJ to C:\DEV\A\SOURCE\PROJ allows changing to the project directory by issuing the much shorter command CD %PROJ. Thus, environmental variables have become an important part of my system, and upon installing a new operating system, updating the CONFIG.SYS to include my stock of environmental variables is one of the first chores I perform.

THE HEART OF THE PERFECT BEAST

Between 4OS2 aliases, command files, REXX, and environmental variables, I can move around fluidly and effectively at the command prompt. Indeed, you may have noticed I haven't even touched the OS/2

Desktop yet, except to open an OS/2 window. Part of building the perfect beast, so to speak, is recognizing the nature of the beast, and I am of the opinion that many users have come to confuse the PM/WPS GUI front-end to OS/2 with OS/2 itself. They are not the same thing; these are optional facilities loaded in the CONFIG.SYS. Configuring and fine-tuning the OS/2 command environment may not be as appealing as an exquisitely customized desktop, but ultimately the underlying batch environment is the heart of the perfect beast. **ts**

Was this column of value to you? If so, please circle Reader Response Card No. 45.



Michael Norton is the workstation division manager at SoftTouch Systems, Oklahoma City, Okla., which provides both mainframe and PC software solutions. He has written mainframe manuals in addition to articles for a number of publications. Michael can be contacted at mnorton@softtouch.com.

UPCOMING

Effective Enterprise Data Access to Legacy Systems

Year 2000 Compliance: New DFSORT Features

NT Migration Strategies

**Common Mistakes in Disaster Recovery Planning:
Part I**

Writing an Aging Utility for Year 2000 Testing

**UNIX, Windows NT, and NetWare:
A Comparative Analysis - Part II**

**Protecting Your Network With and Without Firewalls:
Part VI - DNS Attacks**

October

NaSPA Insurance Programs

- Major Medical
- Life
- Accidental Death and Dismemberment

MMIC

800-349-1039



800-899-1399

- Errors and Omissions

Insurance for NaSPA Members